REMARKS

<u>Summary of the Office Action</u>

Claims 1, 5 and 57 are considered in the Office action.

Claims 1, 5 and 57 have been rejected under 35 U.S.C. § 102(b) as anticipated by Steinmetz, Jr. U.S. Patent No. 5,600,579 ("Steinmetz").

<u>Summary of the Reply</u>

Applicants have amended claims 1, 5 and 57, and have added new claim 59 to more particularly point out and distinctly claim the invention.

<u>Reply to Rejections Under 35 U.S.C. § 102(b)</u>

Claims 1, 5 and 57 have been rejected under § 102(b) as anticipated by Steinmetz. Amended claim 1 recites a method for providing a design test bench, the method including (1) providing a single executable program adapted to create a primary thread and a secondary thread, the primary thread running a simulation engine, the secondary thread running an interpreter that interprets a scripted routine comprising a user-defined call that is mapped to a simulation engine task; (2) providing a user-defined simulation engine function associated with the interpreter; (3) upon encountering the user-defined function, passing control from the simulation engine to the interpreter to interpret the scripted routine; and (4) upon encountering the user-defined call, passing control from the interpreter to the simulation engine.

Steinmetz does not describe or suggest the claimed invention. Instead, Steinmetz describes a hardware design verification system including simulator means, test script means and dispatch means, each of which is a separate executing computer program under control of an operating system that provides for concurrent execution of computer programs. (Col. 3, lines 3-6; Col. 3, lines 20-24). Hardware design verification system 100 includes a number of program modules that execute concurrently on a time-sharing operating system. (Col. 4, line 66 through Col. 5, line 3). The program modules include simulation environment 101, test script 103 and dispatch module 105. (Col. 5, lines 21-22; Col. 5, lines 36-37; Col. 5, lines 47-48). Simulation environment 101 provides the resources for modeling the operation of circuit under

test 115 and master model 113. (Col. 5, lines 22-27). Test script 103 is designed to test particular features of circuit under test 115. (Col. 5, lines 37-38). Dispatch module 105 bridges the executing test script 103 and simulation environment 101 by forking off the test script and the simulation environment as child processes that run independently of the dispatch means, which is the parent process. (Col. 3, lines 26-29; Col. 5, lines 47-51). Dispatch module 105 communicates with simulation environment and with test script 103 via data socket-based packet communication. (Col. 56-59).

Unlike the claimed invention, Steinmetz does not describe or suggest providing a single executable program that creates a primary thread and a secondary thread, the primary thread running a simulation engine, the secondary threads running an interpreter that interprets a scripted routine. Indeed, Steinmetz' system uses separate executable programs to implement simulation environment 101, test script 103 and dispatch module 105. This distinction is significant, because the claimed methods offer several advantages over the Steinmetz approach. Indeed, the claimed methods allow faster communication between the simulation engine and the scripted routines than Steinmetz' socket-based communication approach. As a result, the claimed methods require less overhead than the Steinmetz system, in which communication between test scripts 103 and simulation environment 101 occurs only via sockets.

Further, Steinmetz points away from the claimed invention. Indeed, for the Steinmetz system to properly function, dispatch module 105, test script 103 and simulation environment 101 must be separate programs that run independently of one another. See, e.g., Col. 5, lines 47-62. Such independence permits dispatch module 105 to function as a sever process and to establish a socket-based communication protocol with client processes test script 103 and simulation environment 101. Thus, it would not have been obvious to modify Steinmetz to create a single executable program that creates a primary thread and one or more secondary threads, because making such a change would eviscerate an essential element of Steinmetz system (i.e., socket-based, inter-process communication).

Because Steinmetz does not describe or suggest the claimed invention, and actually points away from the claimed invention, applicants respectfully request that the §102(b) rejection of claim 1 be withdrawn. Because claims 5 and 57 depend from claim

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1, applicants further respectfully request that the §102(b) rejection of claims 5 and 57 be withdrawn.

Conclusion

For the reasons stated above, applicants submit that this application, including claims 1, 5, 57 and 59, is allowable. Applicants therefore respectfully request that the Examiner allow this application.

Respectfully submitted,

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